

Knowledge Capturing for Configuring SAP Using ISO Standard

Mr. Sataporn Schwindt

College of Arts, Media and Technology

Chiang Mai University, Thailand

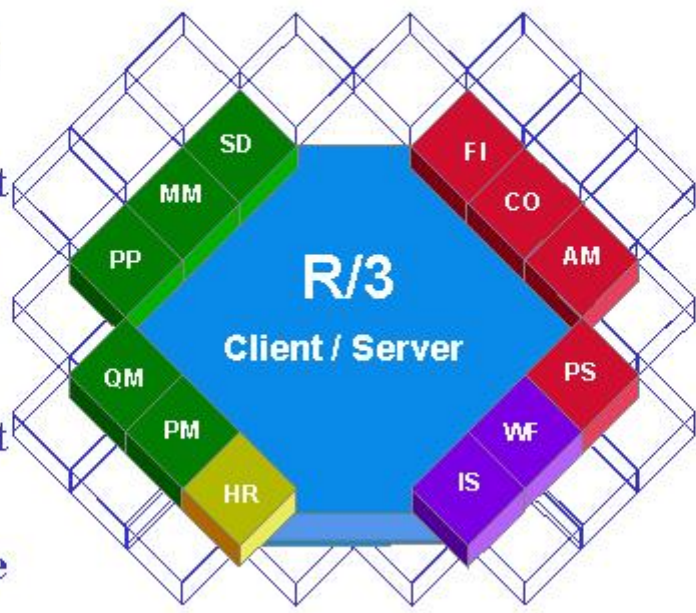


Introduction

- SAP: Systems, Applications and Products
- The SAP ERP application is an integrated enterprise resource planning (ERP) software manufactured by SAP AG
- It uses the concept of modules
- The implementation of SAP software, such as SAP R/3 is almost always a massive operation that brings a lot of changes in the organization.

R/3 Core Business Processes

Sales & Distribution
Material Management
Production Planning
Quality Management
Plant Maintenance
Human Resources



Financial Accounting
Controlling
Fixed Asset Management
Project System
Workflow
Industry Solutions

Problems

- It may not fit a company's business model exactly. To implement the SAP software in an organization, configuration process is necessary.
- Locked into relationship by contract and manageability with vendor/SAP consultant - a contract can hold a company to the vendor/SAP consultant until it expires. Cost of switching vendors/SAP consultant is very high

Purpose of the study

- To capture the knowledge from the SAP consultant while configuring the system by using ISO/IEC 15504 standard.
- *To assess the captured knowledge.

Background

- ISO/IEC 15504, also known as SPICE (Software Process Improvement and Capability Determination)
- It is a "framework for the assessment of processes"
- It was developed by the Joint Technical Subcommittee between ISO (International Organization for Standardization) and IEC (International Electrotechnical Commission)

- Initially, it was derived from process lifecycle standard ISO 12207 and from maturity models like Bootstrap, Trillium and the CMM.
- ISO/IEC 15504 contains a reference model defines a process dimension and a capability dimension.

PRIMARY Life Cycle Processes

Acquisition Process Group (ACQ)

- ACQ.1 Acquisition preparation
- ACQ.2 Supplier selection
- ACQ.3 Contract agreement
- ACQ.4 Supplier monitoring
- ACQ.5 Customer acceptance

Supply Process Group (SPL)

- SPL.1 Supplier tendering
- SPL.2 Product release
- SPL.3 Product acceptance support

Engineering Process Group (ENG)

- ENG.1 Requirements elicitation
- ENG.2 System requirements analysis
- ENG.3 System architectural design
- ENG.4 Software requirements analysis
- ENG.5 Software design
- ENG.6 Software construction
- ENG.7 Software integration
- ENG.8 Software testing
- ENG.9 System integration
- ENG.10 System testing
- ENG.11 Software installation
- ENG.12 Software and system maintenance

Operation Process Group (OPE)

- OPE.1 Operational use
- OPE.2 Customer support

ORGANIZATIONAL Life Cycle Processes

Management Process Group (MAN)

- MAN.1 Organizational alignment
- MAN.2 Organizational management
- MAN.3 Project management
- MAN.4 Quality management
- MAN.5 Risk management
- MAN.6 Measurement

Process Improvement Process Group (PIM)

- PIM.1 Process establishment
- PIM.2 Process assessment
- PIM.3 Process improvement

Resource and Infrastructure Process Group (RIN)

- RIN.1 Human resource management
- RIN.2 Training
- RIN.3 Knowledge management
- RIN.4 Infrastructure

Reuse Process Group (REU)

- REU.1 Asset management
- REU.2 Reuse program management
- REU.3 Domain engineering

SUPPORTING Life Cycle Processes

Support Process Group (SUP)

- | | |
|-------------------------|-------------------------------------|
| SUP.1 Quality assurance | SUP.6 Product evaluation |
| SUP.2 Verification | SUP.7 Documentation |
| SUP.3 Validation | SUP.8 Configuration management |
| SUP.4 Joint review | SUP.9 Problem resolution management |
| SUP.5 Audit | SUP.10 Change request management |

Process categories and
process groups

**CAPABILITY
Dimension**

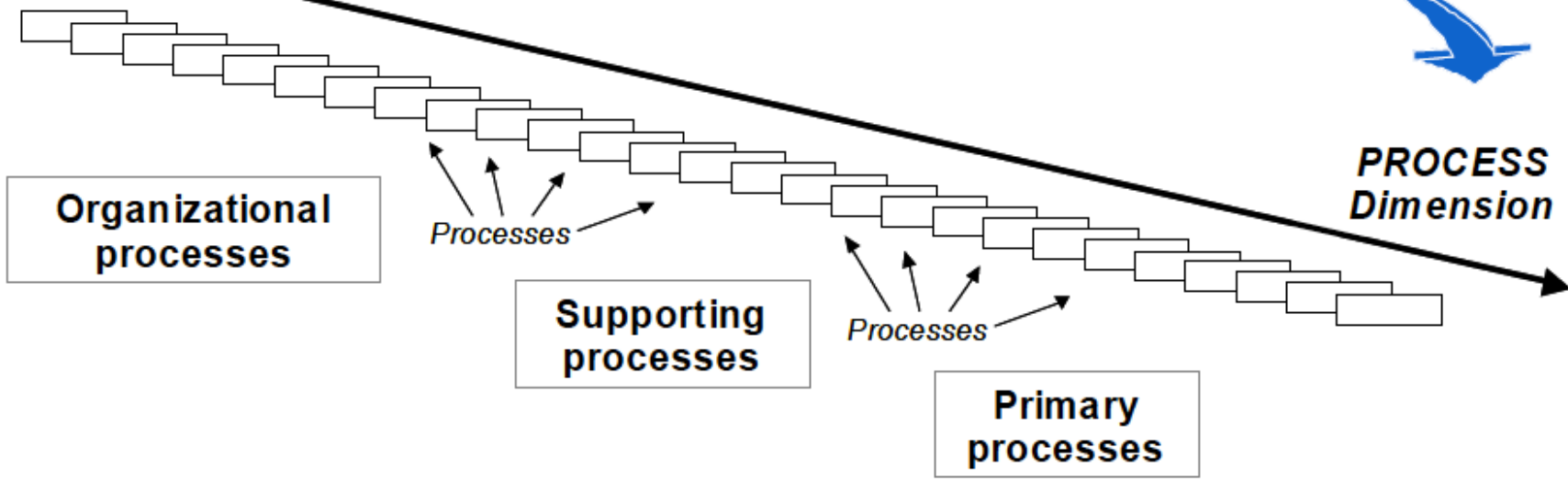
- Level 5 : Optimizing (2 attributes)
- Level 4 : Predictable (2 attributes)
- Level 3 : Established (2 attributes)
- Level 2 : Managed (2 attributes)
- Level 1 : Performed (1 attribute)
- Level 0 : Incomplete

**ISO/IEC
15504-2**

**ISO/IEC
12207 AMD1 & AMD2**

**Process Reference
Model (PRM)**

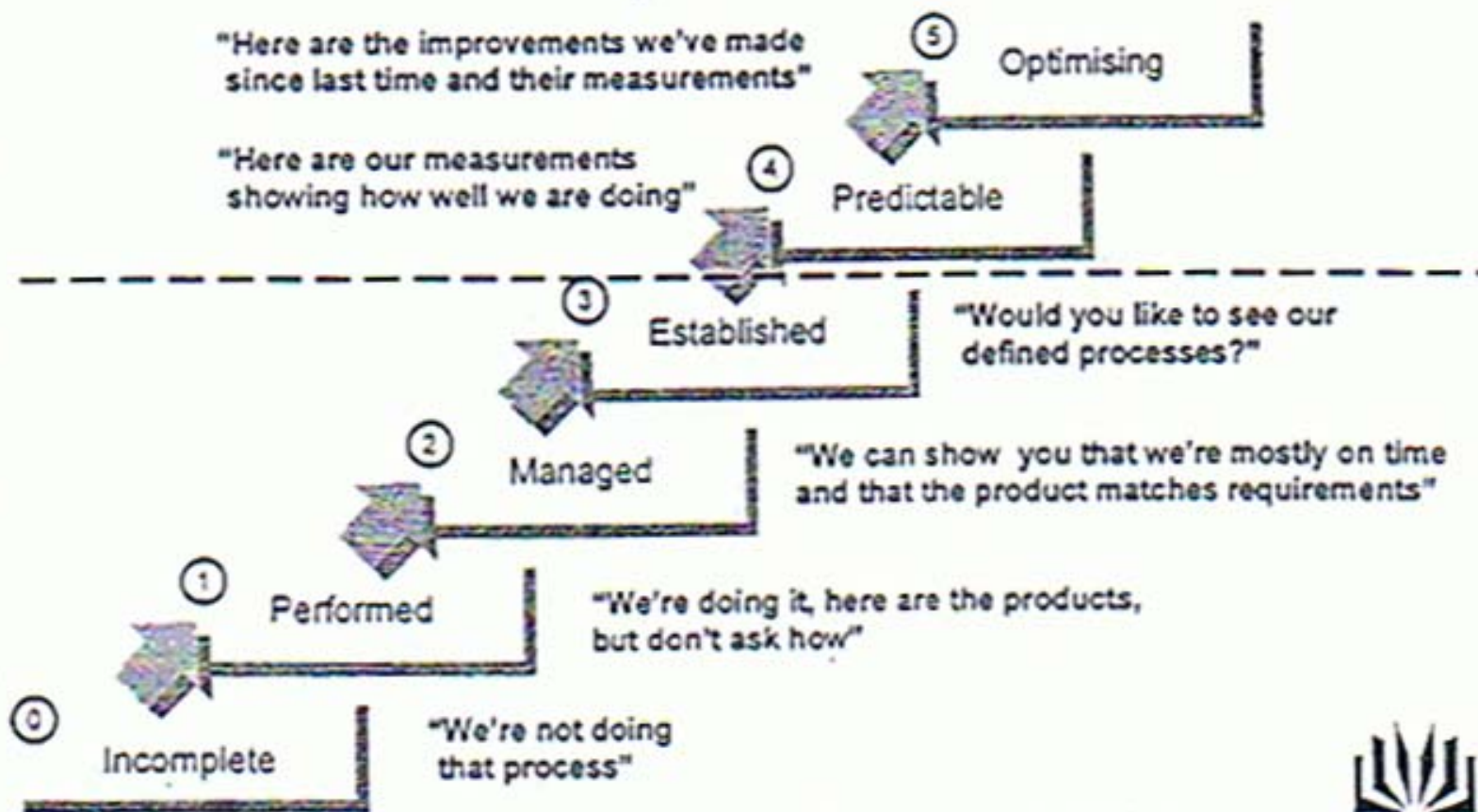
**PROCESS
Dimension**



Relationship between the Process Assessment Model and its inputs

ISO 15504 - Capability Levels

“in practice”



Methodology

- The process dimension of the Process Assessment Model provides information in the form of
 - a) a set of base practices for the process providing a definition of the tasks and activities needed to accomplish the process purpose and fulfil the process outcomes
 - b) a number of input and output work products associated with each process and related to one or more of its outcomes; and
 - c) characteristics associated with each work product.

Process ID	RIN.3
Process Name	Knowledge management
Process Purpose	The purpose of the Knowledge management process is to ensure that individual knowledge, information and skills are collected, shared, reused and improved throughout the organization.
Process Outcomes	As a result of successful implementation of Knowledge management process: 1) infrastructure is established and maintained for sharing common and domain information across the organization; 2) knowledge is readily available and shared throughout the organization; and 3) the organization will select an appropriate knowledge management strategy.
Base Practices	RIN.3.BP1: Establish a knowledge management system. Establish and maintain a knowledge management infrastructure and mechanism to support the activities to identify, classify, exchange and use knowledge assets. [Outcome: 1, 2] RIN.3.BP2: Create the network of knowledge contributors. Establish the network of experts and their mutual interaction. [Outcome: 2, 3]

Work Products

Inputs	Outputs
	01-04 Knowledge item [Outcome: 2]
	03-02 Asset use data [Outcome: 2]
05-02 Business goals [Outcome: 3]	
13-04 Communication record [Outcome: 2]	13-04 Communication record [Outcome: 2]
16-04 Knowledge repository [Outcome: 1, 2]	16-04 Knowledge repository [Outcome: 1]
	19-03 Knowledge management strategy [Outcome: 3]

Scope of the study

- Some SAP module will be selected
- ISO/IEC 15504 processes that will be used
 - RIN.3 Knowledge Management
 - REU.2 Reuse Program Management
 - REU.3 Domain Engineering
- Case study: Master degree student theses using SAP